

Cambridgeshire County Council.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE

Administrative County of Cambridge

For the Year 1915.

Cambridge:

THE CAMBRIDGE EXPRESS PRINTING Co., LTD.,
36, KING STREET.

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- I. Vital Statistics of the Administrative County.
- II. Notification of Infectious Diseases in County and Districts.
- III. Causes of, and Ages at, Death in the Administrative County and its Districts.
- IV. Infantile Mortality in the Administrative County.
- V. Summary of Notifications of Tuberculosis.

PREFACE.

The prevalence of notifiable infectious disease showed a very satisfactory decline during the year, and the mortality among infants in both Urban and Rural Districts, though higher than in 1914, was below the average for similar areas in the rest of the country. On the other hand, the birth-rate showed a further decline, limited to the rural area, while the death-rate from all causes showed a serious increase. The excess of mortality was partly due to the unusually large number of deaths from bronchitis and pneumonia, caused, no doubt, by the severe weather. A widespread epidemic of measles also contributed materially to the death-rate by causing heavy mortality among young children. Now that this disease has become compulsorily notifiable, Local Sanitary Authorities will be looked to for the exercise of the powers conferred upon them for limiting its spread.

In consequence of the war, works of construction, such as housing schemes and water supply, have been in abeyance, but a considerable volume of useful work has nevertheless been carried out by the Local Sanitary Authorities for the maintenance and improvement of sanitary conditions. Much work has also been done in co-operation with the Military Authorities, especially in Cambridge Borough, where the great bulk of troops billeted in the County have been located.

A marked expansion of the direct executive work of the County Council during the year has to be recorded, with the prospect of added duties in the immediate future in connection

with the Venereal Diseases Regulations. A scheme for the provision of improved facilities for diagnosis and treatment of these diseases, which account for much distress and mortality, is now in course of preparation by the Public Health and Housing Committee.

In view of the loss of life from military operations and the continued decline in the birth-rate, the problem of the preservation of infant life assumes the utmost importance. I am glad to be able to record that a considerable volume of work has been done in this connection under the direction of both the Borough and County Councils, some 8,200 visits to the homes of infants having been paid during the course of the year. The County Council's scheme for affording advice to mothers before confinement, and for extending visitation of infants up to school age, in the rural area, has recently been approved by the Local Government Board.

The Council's scheme for control of tuberculosis has shown marked expansion during the year. Visits of patients to the Dispensary, and of the Tuberculosis Officer and Health Visiting Staff to the homes, show a marked increase in numbers. On the other hand, the arrangements made for provision of hospital beds could not be carried out owing to military requirements, and the operation of the sanatorium scheme drawn up last year has been deferred. There is now, however, every prospect of an agreement being arrived at between the County Council and the Insurance Committee which will make provision for the present needs of both insured and uninsured persons, including children.

The administration of the Mental Deficiency Act has been restricted locally by the limitation of the grants by the Treasury, but in spite of this good progress has been made.

At present 24 defectives are being maintained by the County Council in Institutions or under guardianship, and 22 under suitable supervision. At the termination of the War it is to be hoped that County Authorities may receive very generous financial assistance from the Treasury, as even the present restricted administration of the Act has shown how intimately the question of mental deficiency is associated with the health and social welfare of the public.

FRANK ROBINSON,

County Medical Officer of Health.

Public Health Department,
County Hall,
Cambridge.

INDUSTRIES.

The Borough of Cambridge, besides being the seat of the University and the centre of the County Administration, is also the market town for the surrounding rural districts. Outside the Borough the main industry is agriculture, and the production of milk and butter constitutes a trade of some importance. There is a large jam factory at Histon, and fruit growing and market gardening are important industries in a number of rural parishes.

Grants are made by the Board of Agriculture and the County Council to the University for educational purposes in connection with agriculture.

WATER SUPPLY.

The chief geological formations from which water is derived in this County are the Lower Chalk and Lower Greensand, but some districts rely upon wells in the Jurassic Clays, Boulder Clay, and in gravel. A few parishes drink rainwater, and water from springs, water-courses, ponds and ditches. There are many shallow wells which in some parishes are still the sole means of supply.

Cambridge Borough.—A constant service is supplied by the Cambridge University and Town Waterworks Company, about six-sevenths being derived from the Lower Chalk, and the remainder from a Lower Greensand boring. Under the provisions of the Cambridge University and Town Water-

works Act water was to be supplied from new works in the Lower Chalk at Fleam Dyke in substitution for that now derived from the existing works in the same stratum, and was to be available in five years time, but this period was extended for a year in 1915 owing to war conditions, and a further extension of one year is now being applied for.

Chesterton Rural.—Considerable areas in this district stand on the Gault Clay, the Chalk, and on fen deposit. There is some outcrop of Jurassic Clays.

There are public water supplies to 30 of the 37 parishes. Of 12 parishes with piped supplies, 7 are supplied by the Cambridge Waterworks Company. The Cottenham Water Company supplies Cottenham and Rampton from a well in the Lower Greensand. There are 21 connections at Rampton, and during the year 6 new connections at Cottenham brought the total in that parish up to 355. At Willingham there were 105 houses connected with the Willingham Water Company's mains up to December, 1915. Longstanton All Saints and Madingley have piped supplies from the gravel and the Lower Greensand respectively.

In addition to the foregoing mained services, 15 villages have a public supply from the Lower Greensand, two from the Chalk and two from the Gravel.

Caxton and Arrington Rural.—Difficulty arises in this district from the thickness of the Jurassic Clays, and the limited supply available from the Boulder Clay.

The East Hunts. Water Company's boring in the Lower Greensand now supplies three parishes and part of a fourth the scheme for extension to Caxton, including the Workhouse,

was completed during 1915. From the same stratum water is available in two parishes from deep wells, and in three others from an outcrop. Eleven other parishes have public wells, some in clay. Water from ponds is drunk in four parishes. The scheme for the supply of Croxton, Eltisley, Graveley and the Papworths is still in abeyance.

Linton Rural.—The Chalk is the chief source of supply, wells being sunk directly into it, or bored through Boulder Clay. There is no mained service, but 15 of the 20 parishes have a public supply mainly derived from a considerable depth in the Chalk ; in five of these pond water is also drunk. Filtered pond water is publicly supplied to two parishes, and four parishes depend on private wells in the Chalk.

At Duxford during 1915 a new public well was bored in the Chalk to a depth of 120 feet and lined 60 feet with galvanised iron tubes. The water rose in the bore tubes nearly to the surface ; a pump has been fixed. The proposed boring and conversion of the existing public well in the Chalk at Weston Colville has not yet been proceeded with.

Melbourn Rural.—Sixteen of the nineteen parishes stand on the Chalk and Gault Clay, and Lower Greensand water is readily available by boring. There is no mained service except by a small private company at Melbourn which is understood to have suspended operations. In 10 parishes borings into the Lower Greensand furnish public supplies or supplies available for the public. In addition there are deep wells in four parishes, and surface wells in the Chalk in four others. Dr. Anningson records improvement in the surface reservoir water at Great Chishall, and improved facilities for raising water from the deep well in that parish.

Newmarket Rural.—This district stands on Chalk, Boulder Clay and fen deposit, the Chalk being the most important source of supply. Of the three piped public services, that supplied by the District Council from the Chalk at Saxon Street is of chief consequence. It supplies Cheveley, Woodditton and Saxon Street, and extension to Kirtling has been considered but no action was taken during the year. The District Council also supply Stetchworth from the Chalk, and a few houses in Woodditton and Cheveley are supplied by the Newmarket Waterworks Company.

In six parishes there are bored wells into the Lower Greensand, in 9 there are wells of various depths into the Chalk, and in two there are wells in the Boulder Clay.

The preliminary works for the proposed scheme at Soham, for which a loan of £500 was sanctioned, have been carried out, but completion of the scheme has been postponed owing to the war. Some improvements have been effected to the deep well at Ashley.

Swavesey Rural.—This district stands mainly on Jurassic Clays. Swavesey and parts of Conington and Fen Drayton are supplied with Lower Greensand water by the East Hunts. Water Company, while Lolworth is supplied from a private well in the same stratum.

The following table shows the results of analysis of 24 samples of water submitted during the year to the County Analyst, Mr. West Knights, by the various Local Authorities:—

				<i>Fit for drinking Purposes.</i>	<i>Unfit.</i>	<i>Total</i>
Chesterton Rural	...			2	4	6
Linton Rural	...	...		1	2	3
Melbourn Rural	...	...		1	1	2
Newmarket Rural	...			1	2	3
Private	...	...	...	7	3	10
				—	—	—
				12	12	24
				—	—	—

HOUSING OF THE WORKING CLASSES.

The following table shows the action taken by the Local Sanitary Authorities under the Housing (Inspection of District) Regulations.

				Houses Inspected.	Houses unfit for habitation.	Houses repre- sented unfit.
Cambridge Urban	...	...		52	?	—
Caxton and Arrington Rural	...			188	11	37
Chesterton Rural	...	...		25	15	3
Linton Rural	...	...	...	218	11	—
Melbourn Rural	...	...		98	15	7
Newmarket Rural	...	...		510	5	2
Swavesey	...	...	...	64	?	?
				—	—	—
Total for 1915	...	...		1155	?	?
Total for 1914	...	...		2219	104	73

			Closing Orders made.	Remedied without Closing Orders.	Remedied after Closing Orders
Cambridge Urban	...	...	—	?	—
Caxton and Arrington Rural...			—	12	—
Chesterton Rural	...	...	3	12	3
Linton Rural	...	...	—	27	—
Melbourn Rural	...	...	2	1	?
Newmarket Rural	...	...	2	—	—
Swavesey Rural	...	...	7	?	?
			—	—	—
Total for 1915	...	...	14	52	3
Total for 1914	...	...	33	423	16

In some districts work under the Housing Regulations has been practically at a standstill owing to war conditions, while in others the number of inspections has not been far short of what is customary. Housing schemes are in abeyance, and shortage of labour and material has caused difficulty in the execution of necessary repairs.

From time to time the attention of the officers of the Local Sanitary Authorities is drawn to defects as to housing and general sanitation reported by the County Health Visitors during the course of their visits for infant visitation, tuberculosis, and school nursing. During the year, 88 such matters were referred by the County Medical Officer for further investigation by the local officers, 25 references relating to overcrowding and 63 to bad repair and other sanitary defects.

Cambridge Borough.—Twelve cottages erected by the Town Council were completed during 1915, but proposals for 12 others are in abeyance. Only necessary work for remedy of defects has been urged, action being limited to

‘the prevention or suppression of conditions prejudicial to health and to the maintenance of existing arrangements in a sanitary condition.’

Chesterton Rural.—Twenty new houses have been erected in 10 parishes, fewer than is usual. Housing schemes at Oakington, Grantchester, Cottenham and Comberton have not been proceeded with. Repairs have been urged in preference to closure.

Caxton and Arrington Rural.—Three new houses were erected. No other point of interest is noted.

Linton Rural.—Only one house was erected by private enterprise. Better cottages with three bedrooms are required.

Melbourn Rural.—In connection with repairs “great delay has been caused owing to shortage of labour and difficulty in obtaining materials,” but 54 houses were repaired without action by the District Council.

Dr. Anningson notes that “more adequate house accommodation would seem to be needed at the villages of Barrington, Melbourn and Meldreth.” At Melbourn only one house has been built to replace the 13 which were destroyed by fire in 1915, and the total number of houses built during the year did not exceed six. It will be remembered that after an inspection of the District in 1914, the Local Government Board represented that houses were needed in seven parishes, and that the District Council should commence with schemes for Melbourn and Meldreth. The Board did not agree with the District Council that war conditions afforded a sufficient justification for deferring action.

Newmarket Rural.—Many of the cottages inspected were found to be barely fit for habitation. Better houses with three bedrooms are required. Sixteen new houses were erected by private enterprise.

Swavesey Rural.—Eight new houses were erected by private enterprise.

Overcrowding.—In Cambridge, where 5 cases are recorded, in many instances difficulty has arisen owing to reluctance to accept persons with large families as tenants. Dr. Laird makes the very pertinent comment that it is extremely unfortunate that this attitude should exist at a time when the urgent national need for keeping up the population is heard of on all sides.

In Newmarket Rural, 10 of 23 cases were abated, in Chesterton Rural all of 7 cases, and in Melbourn Rural one case. There is no special reference in the other reports. A total of 25 *prima facie* cases were brought to the notice of the officers of the Rural Districts on reports made by the County Health Visitors.

SALE OF FOOD AND DRUGS ACTS.

In Cambridge Borough the administration of the Food and Drugs Acts, for the detection of adulteration, is in the hands of the Borough Authority ; in the rural districts it is in the hands of the County Police.

County.—The total number of samples taken by the County Police for analysis was 167, all of which were formal, equivalent to 2.4 samples per 1,000 of the population. The

principal articles sampled were fresh milk 46, butter 30, margarine 18, cheese 6, flour 24, and tea 8. Two samples of milk were deficient in milk fat to the extent of 10 and 15 per cent. respectively ; all other samples were certified genuine. The vendor of the first-mentioned sample of milk was fined 20s. and 10s. 6d. costs, while proceedings against the other vendor were dismissed on evidence that the milk was sold as it came from the cow.

Cambridge Borough.—The number of samples taken for analysis, including 9 informal samples, was 107, practically 2 per 1,000 of the population. The principal items were milk 69, cream 8, and butter 14. Nine samples of milk were certified not to be genuine and the eight vendors were prosecuted. Five of the defendants were fined a total of £22 10s. 0d. and £8 8s. 0d. costs.

Twenty-six samples of milk and three of butter were taken in course of delivery to various military establishments. There have been three appeals to the cow, each showing over 3 per cent. of fat.

Use of Preservatives in Milk and Cream.—In the rural area the Public Analyst examines for preservatives all samples taken under the Food and Drugs Acts which are likely to contain them. His reports indicate that boric acid was present in 11 samples of butter in quantities varying from 0.30 to 0.50. per cent. and in 18 samples of margarine from 0.30 to 0.45 per cent. No preservative was reported in milk samples.

In Cambridge Borough 69 samples of milk and one of cream were examined, but no preservatives found. One prosecution was instituted for a labelling offence under the Milk and Cream Regulations, and a fine of 25s. inflicted.

UN SOUND FOOD.

Cambridge Borough.—Unsound food condemned totalled 418 stone of beef, pork and mutton, and 24 stone of fish ; also fruit, vegetables and rabbits. There were three seizures and two prosecutions, both resulting in conviction.

Swavesey Rural.—In one instance meat unfit for food was destroyed by agreement with the owner, without legal proceedings. No seizures of unsound food are recorded from other rural districts.

MILK SUPPLY.

The date of commencement of operation of the Milk and Dairies Act of 1914, which places new responsibilities on the County Authority, was postponed by Parliament in 1915 until after the war. In the meantime the public interest aroused in schemes for the saving of infant life, intensified by the heavy mortality among male adults caused by the war, should result in a public demand for a clean, non-tubercular milk supply.

Cambridge Borough.—Systematic inspection of dairies, cowsheds and milk shops has been carried out and some 37 defects remedied. Six samples of milk were examined for the tubercle bacillus, all with negative results.

Rural Area.—Milk is sent from the Rural Districts to London and Cambridge, and to smaller local urban areas. The reports indicate that inspection of premises has continued but no separate figures are given for some of the Districts. In Swavesey Rural District several old sheds have been reconstructed, and the Sanitary Inspector is directing his attention to other matters indicated.

REGULATED PREMISES.

Common Lodging Houses.—There were 131 visits of inspection paid to the 10 registered premises in Cambridge Borough, and four contraventions of the bye-laws were detected. In the rural area there is only one common lodging house, at Soham in Newmarket Rural District.

Canal Boats.—In Cambridge Borough eight visits of inspection were paid to five Canal Boats, and notices were served in two instances for infringement of the Act. Legal proceedings were taken in one case for failure to comply with the notice, and fines were inflicted.

Slaughter Houses.—To the 27 slaughter houses in Cambridge Borough 1,704 visits were paid ; seven defects were remedied. In all the rural districts inspection is stated to have been systematically carried out. In Chesterton Rural, structural and drainage improvements were effected on three premises, and in Swavesey Rural five occupiers were required to limewash.

Factories and Workshops.—Reference to this subject is omitted on this occasion from the reports from several Districts, but speaking generally inspection has been systematically carried out. Apart from bakehouses, record is made of the remedy of various defects in Cambridge Borough (52), Chesterton Rural (9), Melbourn Rural (9), and Swavesey Rural (2). No prosecutions are recorded. Remedy of defects in bakehouses is also noted.

Offensive Trades.—Reference is made to inspection of the knackers' yards in the Chesterton (1), Linton (1) and Newmarket Rural District (2), but there is no item of special interest.

SEWAGE AND DRAINAGE.

The customary details are omitted from the reports for 1915, the information given being practically confined to statistics of work done.

Cambridge Borough.—Sewage is removed on the partially separate system to the sewage farm in the Chesterton Rural District, where after reception into settling tanks, it undergoes land filtration, the effluent being discharged into the Cam.

Particulars are given of reconstruction of house drains (127), application of smoke test (157), repair of vent shafts, etc.

Rural Districts.—There are few sewerage systems, slop waters being mostly disposed of on garden ground or discharged into road drains. Statistics are given regarding the construction of new house drains or the reconstruction and repair of existing drains in the Caxton, Chesterton, Melbourn and Swavesey Districts.

New drains :—Caxton 15, Chesterton 17, Melbourn 11.

Reconstruction, etc. :—Caxton 22, Melbourn 4, Swavesey 11.

In Chesterton Rural District new drains have been laid at Teversham and Little Shelford, and a decision has been arrived at regarding the longstanding question of the drainage and roadmaking of Ditton Lane, in the Parish of Fen Ditton. "It has now been decided to provide a surface water drain and make up the road, the cost of roadmaking to be raised by a voluntary rate, and the drain provided by the District Council. At the first meeting in 1916, the Surveyor was instructed to proceed with the laying of the drain."

POLLUTION OF RIVERS AND STREAMS.

This subject is omitted from the reports for 1915. The County being an agricultural area there is little, if any, pollution of streams by trade effluents, but the streams receive slopwater through road drains and house drains in many rural parishes.

DISPOSAL OF EXCREMENT AND HOUSE REFUSE.

Reference to this subject is also limited.

Excrement Disposal.—Cambridge Borough is on the water carriage system. During the year 216 closets were provided with flushing cisterns and 9 new w.c.'s constructed.

In the Rural Districts only the better houses have water closets, the great bulk of the houses being on the conservancy system. The reports show that progress continues to be made with the abolition of the insanitary privy pit. In Chesterton Rural 67 improved pail or earth closets have been constructed ; in Melbourn Rural District 33 pits have been converted into pails, 9 new pails provided and 4 privies abolished ; in Caxton Rural 46 new pails have been provided, and in Swavesey Rural 21 new pails have been substituted for privies. Progress is thus being made in the direction of the abolition of breeding grounds for flies and the removal of a serious source of infection of the food of infants and young children.

House Refuse.—In Cambridge Borough refuse is collected at intervals varying from daily to twice weekly ; it is burned

in a destructor. In the Rural Districts there is no system of public scavenging, refuse being disposed of on garden ground or on allotments. A tendency to the introduction of sanitary dustbins is noticeable in some of the reports, and should receive every encouragement, as the method of storage in vogue is commonly careless in the extreme. It cannot be too widely understood that lack of care in this matter not only creates a nuisance which need not arise at all, but endangers the health and lives of the infant population by affording breeding places for flies. The County Council's leaflet on this subject is at the disposal of the Health Visitors under the Notification of Births Act. It is to be hoped that information may be disseminated in this way, but progress is slow.

NUISANCES.

The usual tabular statement of the work of the Sanitary Inspectors has not been furnished in some of the reports for 1915. Those which are given indicate the continuance of a large volume of work for the protection of the health of the public and the preservation of the amenities of their daily life. There is, however, nothing which calls for extended reference, though I would especially commend the clear and detailed summary of work done given by Mr. Stock, the Inspector for the Melbourn Rural District. In Linton Rural District, owing to the illness of the Inspector, the work has been carried out by his deputy, Mr. Austin, who has since been appointed Inspector.

ADOPTIVE ACTS AND BY-LAWS.

These were stated fully in my report for 1914. The only new feature in 1915 was the adoption by the County Council of the Notification of Births Act of 1907, for the whole of the rural area, where it came into operation on January 1st, 1915.

PREVENTION OF MORTALITY IN CHILD BIRTH AND INFANCY.

The measures taken comprise the following :—

Administration of the Midwives Act by the County Council.

Administration of the Notification of Births Act by Borough and County Councils.

Home visitation of infants up to twelve months in Borough and rural areas.

Infant Consultations and Mothers' Schools in Cambridge Borough.

The County Council have now resolved to extend their home visitation scheme so as to include ante-natal work and to continue visitation up to school age. They also propose to make some provision for medical attendance on cases of difficult labour.

The foregoing subjects are dealt with in more detail in the following sections on the Midwives Act and Infant and Maternal Welfare.

MIDWIVES ACT.

The County Council are the Local Supervising Authority ; they have not delegated their powers and duties. After January 31st, 1915, the new arrangement came into operation whereby the County Nursing Association undertook the

work of inspection of midwives as part of the scheme of home visitation for supervision of infant management, tuberculosis and school nursing. The Superintendent of the Association acts as Inspector of Midwives under the direction of the County Medical Officer of Health. During the year 156 routine visits of inspection were paid to midwives by the Inspector, and 27 special enquiries were conducted by the County Medical Officer of Health, either personally or through the Inspector.

The following is the number of women who, during the month of January, notified their intention to practise in the years specified :—

		Trained.	Untrained.	Total.
January 1906 ...	...	24	42	66
„ 1915 ...	..	32	13	45
„ 1916 ...	...	30	13	43

Including notifications after January, there were practising the year 52 midwives (39 trained, 13 untrained).

Of the 30 trained women practising in January, 1916, 7 live in Cambridge Borough and 23 in the rural area ; all 13 untrained women live in the latter area.

The total number of midwives practising at this date shows a reduction of 35 per cent. on the year 1906, at the commencement of working of the Act. This is due to 59 per cent. of untrained women having ceased to practise, through death, resignation, or for other reasons. The number of trained women shows an increase, due largely to the action of the Education Committee and of the County and District Nursing Associations. The Higher Education Committee have resolved to continue their annual grants to the County Nursing Association for four Nursing Scholarships of £50

each, the training to include instruction for the examination of the Central Midwives Board.

During 1915 two midwives who received scholarships in 1914 commenced practice, and two further scholarships were granted. A grant of £35 was also made to a Nursing Association where the Holt-Ockley system of cottage nursing is in operation.

The training of District Nurses, who are also midwives, has been stimulated of recent years by the operations of the County Nursing Association, whose activities in this direction have latterly been somewhat hampered by the financial situation caused by the War. The full value of the services rendered towards the extension of the midwifery service cannot be estimated by the number of trained women practising under the Act, as other trained women who act as maternity nurses under the direction of a doctor do not undertake independent conduct of cases, and therefore are not required to notify their intention to practise under the Act from year to year. The Local Government Board have recently made a grant of £45 to the County Nursing Association for distribution to District Nursing Associations whose nurses act as midwives. The Board are not, however, prepared to make grants for nurses who nurse maternity cases but do not practise as midwives, and both the County Nursing Association and County Council have made representations to the Board in favour of a reversal of this policy, in view of the valuable services rendered to the health of the community by an efficient system of maternity nursing.

From information furnished by the midwives, the total number of cases attended during the year, either as midwife or monthly nurse, is returned as 1,046, compared with 988 during 1914. Of these 220 were attended in the capacity

of nurse, a medical practitioner undertaking the conduct of the case. This leaves 826 attended independently as midwives under the provisions of the Midwives Act, an increase of 39 on the figures for 1914. Medical assistance was advised by the midwife in 94 of these cases, or 11 per cent., compared with 14 per cent. in 1914.

The following figures indicate the total cases conducted by midwives under the Act, apart from those attended by them under the direction of a medical practitioner.

	Births registered.	Conducted by Midwives.	Percentage of Midwives cases.	
			1914.	1915.
Cambridge Borough	996	508	53	51
Rural Districts ...	1290	318	19	25
Whole County ...	2286	826	33	36

Of the 826 confinements conducted independently by midwives, 722, or 87 per cent., were conducted by trained women, leaving 104, or 13 per cent., conducted by untrained, though registered, women.

The number of notifications received from midwives in accordance with the Rules of the Central Midwives Board was as follows :—

	1914.	1915.
Medical help advised for mother ...	69	63
Medical help advised for infant ...	38	31
Still births	18	18
Death of mother, no doctor attending...	1	—
Death of infant, no doctor attending ...	1	2
Laying out the dead	9	10
Total ...	136	124

Special enquiries were made into the foregoing notifications as occasion required, but no extended reference is necessary. No septic cases were notified, though one case in which a rise of temperature was notified proved eventually to be septic. Nine of 12 notified cases of inflammation of the eyes of infants were enquired into, and in the only severe case the infant had been born before the arrival of the midwife.

The number of still-births notified was practically identical with that in 1914, viz., 18 against 17, a proportion to total labours attended of 2.2 per cent. Special enquiries are now being made into all still-births notified under the Midwives Act, in order to gain as much information as possible regarding the attendant circumstances with a view to the saving of infant life.

INFANT AND MATERNAL WELFARE.

Cambridge Borough.—The Notification of Births Act, 1907, is administered by the Town Council, and has been in operation since 1909. The proportion of births notified decreased slightly from 92.4 per cent. of the total registered in 1914 to 91.1 per cent. in 1915. Approximately 49 per cent. of notifications were by midwives, 23 per cent. by medical practitioners, and 28 per cent. by relatives or others. There was a decrease in notifications by medical practitioners, and an increase in those by parents.

The home visitation is undertaken by three Health Visitors of the League of Physical Education and Improvement, under the direction of the Borough Medical Officer of

Health. They visited 712 infants during the year, paying a total of 4,276 visits. A very low mortality prevailed among those entirely breast-fed, viz., 0.6 per cent., compared with 5.6 among those not breast-fed at all. It is very satisfactory to note that of 167 bottle-fed babies, only 3 had long-tubed bottles, and that of 189 fed wholly or partly on cow's milk, 187 had the milk boiled or sterilised.

Mothers' Schools have been established at four centres under the auspices of the League for Physical Education and Improvement. Voluntary workers give instruction in the making of clothing and in cookery, and health talks are given. During a period of six months 860 attendances were made. It is intended to extend the work on the ante-natal side as soon as possible. A Thrift Club has been started in connection with one of the Mothers' Schools.

Infant consultations are held at four centres in Cambridge under the same auspices as the Schools for Mothers, children up to school age being dealt with. During the year 398 children were seen, the total number of attendances being 1,794.

Rural Districts.—The Notification of Births Act was adopted by the County Council for the rural area, and came into operation on January 1st, 1915. The position in this County was therefore unaffected by the Notification of Births (Extension) Act of 1915. The administration in the rural area is in the hands of the County Council. The following table shows the number of notifications received up to December 31st, 1915 :—

District.	Medical Practitioners,	Midwives.	Relatives and others.	Total.
Chesterton Rural ...	217	61	60	338
Caxton and Arrington Rural ...	44	34	19	87
Linton Rural ...	58	83	9	150
Melbourn Rural ...	80	9	10	99
Newmarket Rural ...	173	122	9	304
Swavesey Rural ...	46	—	2	48
	—	—	—	—
	618	299	109	1026
	—	—	—	—

Of the total notifications 60 per cent. were received from medical practitioners, 29 per cent. from midwives, and 11 per cent. from relatives and others. After excluding duplicates the total number of births notified was 1,018, or 77 per cent. of the total registered. A considerable deficit was to be looked for until the requirements of the Act should be fully understood by the public. During the second half of the year, approximately 84 per cent. of the births registered were notified, compared with 91.1 per cent. in Cambridge Borough, where the Act has been in operation for seven years, and this may be regarded as a satisfactory result.

As in the Borough, steps are taken to ascertain unnotified births, the parents being then reminded of the legal requirements. The Registrars gave information regarding 263 such births, and the Health Visiting Staff discovered 8 others. The total number of births coming to the knowledge of the County Medical Officer of Health from all sources numbered 1,289. Of these, 108 were not visited, as the parents were in good circumstances, or the infant had died, or for other reasons.

The total number of infants systematically visited was 1,181, the total number of visits paid during the year being 4,881, of which 2,084 were paid by the nurses in the service of District Nursing Associations, and 2,797 by the staff of the County Nursing Association in the unnursed areas. The work is carried out under the supervision of the Superintendent of the County Nursing Association, acting under the direction of the County Medical Officer of Health. Details of the duties were given in last year's report ; their performance in the unnursed areas is undertaken by two Assistant Superintendents of the County Nursing Association, and a third is about to be appointed.

In view especially of the heavy mortality caused by the War, the work of home visitation is about to be extended so as to include advice of the mother before the birth of the child, and to continue the visitation of infants from the end of the first year of life until the child enters school and comes under the notice of the School Medical Staff.

The Council propose to make some provision for medical attendance on difficult cases of confinement, and, if possible, for hospital beds, but have deferred the formation of maternity centres for the present, it being doubtful whether the number of births in individual rural parishes would be large enough for such centres to be economically sound.

SCHOOLS.

Apart from Cambridge Borough, which is an autonomous area, the medical inspection of public elementary scholars is carried out by the County School Medical Officer and the Assistant School Medical Officer, who are also the County

Medical Officer of Health and Assistant Medical Officer of Health respectively. Both are whole-time officers of the County Council. The services of the Tuberculosis Officer are available, and there is a whole-time School Dentist.

My Annual Report to the Education Committee contains a list of sanitary improvements effected during the year in Provided Schools, and a statement as to the sanitary defects reported upon by the medical staff in both Provided and Non-Provided Schools. The 19 reports presented to the Buildings Sub-Committee related to 6 Provided and 13 Non-Provided Schools, the 31 defects reported upon including ventilation 10, offices and drainage 8, heating 5, lighting 4, and other defects 4.

Administrative work in connection with infectious disease was exceptionally heavy during 1915, mainly owing to the widespread prevalence of measles. The special visits paid to the schools by the medical staff numbered 76, and as many as 165 school closures were necessitated, all on the certificate of the School Medical Officer. Of the closures, 87 were for measles, 36 for epidemic catarrh or influenza, 18 for whooping cough and smaller numbers for other diseases.

During the last seven months of the year 218 home visits were paid by School Nurses for enquiry into cases of infectious disease notified by teachers, and this development of the School Medical Work proved of considerable assistance. Measles having been made compulsorily notifiable, I have advised the Public Health Committee that it would avoid duplication of machinery if the County and District Nurses, who are the School Nurses, were to make the necessary enquiries into notified cases for the Local Sanitary Authorities as well as for the Education Committee

as at present. This has been transmitted to the Rural District Councils for consideration.

Provision is made by the Education Committee for the bacteriological diagnosis of diphtheria, and 396 swabs were taken by the medical staff during the year from schools in 25 parishes, evidence of diphtheria being obtained from 31 swabs. Enquires were made during 1915 as to whether a combination could be effected with adjoining County Authorities for the appointment of a whole-time bacteriologist, but this appears impracticable at present.

The home conditions under which persistently verminous children live was the subject of special reference in my annual report to the Education Committee, from which the following paragraph is quoted :—

“ As regards verminous conditions, the improvement noted is encouraging, but cannot go beyond a certain point unless the chronically neglected families can be more adequately dealt with. Such children may themselves be cleansed for a time, but unless their dirty homes are cleansed also they become reinfected, and are a constant menace to other children. This matter is engaging the attention of the Public Health Committee, with a view to arriving at some arrangement with the Local Sanitary Authorities, for cleansing of the homes of children who are persistently verminous, and of articles, such as bedding, which are likely to harbour vermin. It would appear that the Public Health Act, 1875, confers adequate powers for cleansing of filthy premises, but that added powers would need to be obtained under the Public Health Act Amendment Act of 1907 to enable a Sanitary Authority to deal compulsorily with filthy articles.”

METHODS OF DEALING WITH INFECTIOUS DISEASE.

The reports indicate that following the receipt of notifications of infectious disease the usual routine measures of visitation, enquiry and instructions, isolation and disinfection, have been carried out. The extent to which cases are removed to hospital varies much in the different sanitary districts. There has been no new departure in the administrative arrangements.

Bacteriological Diagnosis.—Provision has been made with this object by all the Local Sanitary Authorities for diphtheria and enteric fever, and by some for cerebro-spinal meningitis and other purposes. In Cambridge Borough, including isolation hospital and school work, 4,987 swabs for diphtheria were examined. In Linton Rural District 69 swabs were examined for the District Council, but no figures are available for other districts. Figures are not given for serum examination for enteric fever.

The examination of sputum for the tubercle bacillus is undertaken by the Cambridge Borough Council. For the Rural area the County Council's Tuberculosis Officer examined 134 specimens during the year.

In the Rural Area the County medical staff took 396 swabs for diphtheria from children attending public elementary schools. They also took 24 swabs for examination in connection with cerebro-spinal meningitis.

Diphtheria Antitoxin.—This is supplied to private practitioners for the poorer inhabitants by all the Sanitary Authorities. While paying a tribute to the

promptitude of the medical practitioners in Cambridge, Dr. Laird points out the danger of relying too much on bacteriological diagnosis, and thus delaying the administration of antitoxin until the results of swabs have been received. As it is, the relatives often do not obtain medical assistance until the patient is so ill that it is too late for full benefit to be derived from antitoxin treatment. Any further postponement of the administration of antitoxin is therefore to be deprecated in cases where clinical appearances afford reasonable grounds for a diagnosis of diphtheria. "It cannot be too widely known that the Local Authority (Cambridge Town Council) decided in 1914 to pay the fee of any medical practitioner called to a diphtheria patient whose parents are unable to pay the fee, and have further decided to pay for the administration of antitoxin to such cases."

Diphtheria Carriers.—Dr. Laird refers to the special liability of children with enlarged tonsils to be chronic sources of infection to others. In Cambridge "a point has therefore been made to remove all such tonsils (with the consent of the parents), and of the 47 carriers isolated in hospital during the year, 16 have had this operation performed. A trial of many applications has been made, but it has been found that nothing removes the trouble so rapidly as enucleation of the tonsils." Steps have been taken with a similar object in other sanitary districts in the County.

Disinfection.—The very large amount of disinfection of clothing, blankets, etc., done by the Cambridge Borough Council for the military authorities may be noted, no fewer than 32,924 articles out of a total of 36,014 have been disinfected mainly for the Army.

As pointed out in previous reports, the absence of steam disinfection for certain of the rural districts renders disinfection

tion of bulky articles such as mattresses practically impossible. This is of special interest to the County Council in connection with their scheme for treatment of tuberculosis, and, under the Midwives Act, for puerperal septicaemia.

Hospital Isolation.—The number of notified cases of scarlet fever and diphtheria, which diseases occupy the great bulk of the hospital beds, fell from 615 in 1914 to 403 in 1915. In the latter year 224 (or 55 per cent.) of these notified cases were isolated in hospital, as against 392 (or 63 per cent.) of 615 cases in 1914. These figures relate to the civilian population, and the smaller proportion removed is no doubt largely due to the requirements for military cases in the isolation hospitals.

Of other notifiable infectious diseases, two of five civilian cases of enteric fever are said to have been removed to hospital; also one of two civilian cases of cerebro-spinal meningitis, and the only notified case of acute poliomyelitis.

None of the 6 cases of puerperal sepsis or of the 8 cases of ophthalmia neonatorum were sent to hospital by the Local Sanitary Authorities.

The relative extent to which these authorities isolated civilian cases in hospital is shown in the following statement :—

Scarlet Fever.—Melbourn Rural, 76 per cent. of 17 cases; Cambridge Urban, 69 per cent. of 86; Newmarket Rural, 64 per cent. of 28; Chesterton Rural, 55 per cent. of 85; and Caxton and Arrington Rural, 29 per cent. of 34 cases. In Swavesey Rural 3 of 4 cases were isolated, while the 19 Linton Rural cases were not removed.

Diphtheria.—Cambridge Urban, 85 per cent. of 67 cases ; Newmarket Rural and Chesterton Rural, each 44 per cent. of 11 and 22 cases respectively ; and Caxton and Arrington Rural, both of 2 cases. None of 20 cases in Linton Rural, or of the 8 cases in Melbourn Rural, were removed.

Enteric Fever.—Newmarket Rural isolated 1 of 2 cases in their Isolation Hospital, and the one civilian case in Chesterton Rural was removed to Addenbrooke's Hospital. The Cambridge cases were not removed.

ISOLATION HOSPITALS.

The County Council assist the Local Sanitary Authorities by contributing annually towards repayment of loans for the erection of isolation hospitals of a permanent character, and towards the cost of maintenance, subject to a favourable report by the County Medical Officer of Health. The grants approved for payment by the Council in February, 1916, were as follows :—

		£	s.	d.
Cambridge Borough	...	620	8	8
Melbourn Rural	... ..	57	6	8
Newmarket Rural	... ..	109	1	5
		<hr/>		
Total	...	£786	16	9
		<hr/>		

Cambridge Borough.—(Census population, 55,812). The isolation hospital, a permanent brick structure, stands on a site of nearly four acres, close to the borough boundary. The two new ward blocks described in previous reports were opened in June, 1915, and bring the total number of beds available at this hospital up to 62, somewhat in excess of the standard requirements of the population.

For smallpox there are two temporary pavilions, with tents for extension, on an isolated site outside the Borough boundary. These beds were made use of during the outbreak of measles among the troops in 1915.

Chesterton Rural District (Census population, 23,182).—A permanent administrative block, and a temporary pavilion of two wards, with air space adequate for 6 or at the outside 8 beds, stand on an isolated site in the parish of Oakington. As this is a temporary structure no annual grant is made by the County Council, who contributed a lump sum towards erection. The accommodation provided is not adequate for the population served.

Caxton and Arrington Rural (Census population, 7,775).—No annual grant is made for the temporary structure for 6 or 8 beds which was erected for smallpox, but which has never been used. The District Council have now no standing arrangements for reception of their cases, but during 1915 some cases were sent to the Cambridge Borough Isolation Hospital.

Melbourn Rural.—This permanent structure, comprising an administrative block and one pavilion of two wards, is situated on the outskirts of Royston (Herts.), and serves a total population exceeding 16,000, of whom over 8,000 belong to Cambs. and an approximately equal number to Herts. Melbourn Rural District is entitled to four beds, which is not, in my opinion, adequate.

Newmarket Rural (Census population, 19,864).—The Joint Isolation Hospital is a permanent one shared with Moulton Rural District (West Suffolk), and cases from Newmarket Urban District are also accommodated by agreement.

The air space suffices for 16 beds, of which the Newmarket Rural District is entitled, on a population basis, to 14. The proposed extension for which plans were prepared has not been proceeded with, no doubt owing to war conditions.

Linton Rural (Census population, 10,567).—No hospital. The County Council advised an interim arrangement with some adjoining Authority.

Swavesey Rural (Census population, 2,584).—No hospital. The arrangement with Chesterton Rural is not entirely reliable, as the accommodation is insufficient for the latter district's own needs.

General Statement.—It will be seen from the foregoing that there is a deficiency of accommodation in the Rural Districts ; this is estimated to be as follows :—Caxton and Arrington (? 8), Chesterton (15), Melbourn (4), Linton (10), Newmarket (6), and Swavesey (2).

The only hospital provision for smallpox that can be seriously considered is that of the Cambridge Borough Council. As indicated in the report for 1914, on the recommendation of the County Council, 5 out of the 6 Rural Authorities have made provisional arrangements with Cambridge for accommodation of cases of smallpox from their areas.

Owing to financial considerations arising out of the War, the proposed conference with Sanitary Authorities for consideration of hospital provision for cases of infectious disease, small-pox and tuberculosis, has not yet been held.

METHOD OF CONTROL OF TUBERCULOSIS.

A detailed account was given in the report for 1914. The work done during 1915 will be considered in relation to the principal administrative bodies concerned.

County Council. The County Council undertake the arrangements for diagnosis, treatment and supervision of the mode of life of persons suffering from tuberculosis, as distinguished from the general sanitary control and arrangements for disinfection and supply of articles to facilitate the prevention of spread of the disease which are undertaken by the Local Sanitary Authorities.

Tuberculosis Dispensary.—This organisation constitutes the chief assistance hitherto given by the County Council, and its establishment is fully justified by the large increase in the number of attendances as compared with the figures given in last year's report. The work is carried on for the whole County at the Cambridge centre, and no branch stations have yet been established in the rural districts.

The expansion of the work has called for whole-time instead of part-time medical services, and Dr. P. C. Varrier-Jones has therefore been appointed whole-time Acting Tuberculosis Officer for the period of the War, the County Medical Officer of Health remaining the chief advisory officer in matters of administration and finance. Miss Borne continued to act as Tuberculosis Nurse until she took up duties as Sister-in-Charge of the Tuberculosis Colony at Bourn early in 1916. The Council then resolved that the duties of the Tuberculosis Nurse should be carried out by an Assistant Superintendent of the County Nursing Association, and Miss F. W. Stanley was appointed. She attends the

Dispensary, undertakes all home visits in Cambridge Borough and all first visits in the rural area.

The work of the Dispensary can be conveniently summarised under the classification employed by the Astor Committee.

(A) *Receiving House and Centre for Diagnosis.* Information as to existing and suspected cases of tuberculosis reaches the Dispensary through compulsory notification of tuberculosis, application of insured persons for Sanatorium Benefit, examination of contacts, reference of cases by School Medical Officers, private practitioners and charitable agencies, and personal application by patients.

As an aid to diagnosis 134 specimens of sputum were bacteriologically examined by the Tuberculosis Officer, the tubercle bacillus being found in 48.

The considerable increase in the number of notifications detailed in the section on Vital Statistics is largely attributable to the work of the Tuberculosis Officer at the Dispensary. It is a very satisfactory feature to record as it does not indicate wider prevalence but earlier detection and information from medical practitioners, who are availing themselves more generally of the facilities afforded for consultation. Still greater improvement may be anticipated when the sanatorium scheme comes into operation.

The number of cases examined by the Tuberculosis Officer under the Dispensary scheme during the year 1915 was as follows :—

Insured	...	...	...	...	...	102
Non-Insured	...	...	...	...	...	316
School Children...	...	...	...	...	...	79
Contacts	...	...	...	...	...	132
Consultation with Medical Practitioners	...	...	...	...	...	105
Referred by Charitable Agencies	...	...	...	...	...
Personal application	...	...	...	...	...
Total						418

(B) *Clearing House and Centre for Observation*.—Patients are kept under observation for purposes of diagnosis, and advice is given by the Tuberculosis Officer to the practitioner in attendance, or the public authority concerned with the case, as to the broad line of treatment considered suitable. These lines of treatment are as follows :—

Sanatoria.—Insured persons are provided for by the Insurance Committee, while for the uninsured the County Council resolved in 1915 to obtain 13 beds for adults and 10 for children in existing sanatoria. This scheme was, however, suspended, as the Local Government Board desired that an agreement should be arrived at with the Insurance Committee, under which the County Council should provide the necessary accommodation for the whole community, the Insurance Committee handing over to them their available funds. The Council have agreed to provide the equivalent of 30 beds to be used for all patients, regardless of the question of insurance, according to their relative urgency, but a minimum number of beds being guaranteed to the Insurance Committee. The matter awaits final adjustment between the two bodies, and there is good reason to believe that a settlement will shortly be arrived at.

Hospital Beds for Advanced Cases.—These are intended for advanced cases requiring isolation or practical instruction as to their mode of life. The Local Government Board approved 12 beds in the Borough Isolation Hospital, and an agreement was arrived at, but military requirements have prevented it from coming into operation.

Institutional Accommodation for Children.—This awaits the completion of the Sanatorium scheme, which will provide 10 beds for children.

(C) *Centre for Curative Treatment.*—Apart from treatment at the Dispensary, provision is made by the Insurance Committee for medical treatment of insured persons in their homes, when advised by the Tuberculosis Officer, but the County Council are advised to use their funds for institutional purposes. In the wider sense, however, valuable aid to treatment is afforded by the systematic visitation of the homes of all tubercular persons by the health visiting staff, who advise as to ventilation, lighting, sleeping accommodation, safe methods of disposal of infected sputum, and precautions generally for the safety of the patients and their house-mates. The following figures show the number of visits paid to the Dispensary by patients, and the number paid to homes by the Tuberculosis Officer and Health Visiting Staff :—

1. *Visits of Patients to Dispensary.*

Insured Persons.	Uninsured		Total.
	Contacts.	Others.	
320	194	512	1026

*2. *Visits to Homes by Tuberculosis Officer.*

Insured Persons.	School Children.	Other Uninsured.	Total.
942	335	296	1573

3. *Visits paid to Homes by Health Visiting Staff.*

	Insured.	Uninsured.	Total.
A. By Tuberculosis Nurse	427	553	980
B. By County Nursing Association (in Rural Area only)	610	814	1424
C. Total (A & B) ...	1037	1367	2404

* Includes visits to Bourn Colony.

The foregoing figures for the calendar year overlap those given in last year's report, but under all headings a large increase of work is indicated.

The loan of open-air shelters with outfits of bedding was continued throughout the year, 30 additional shelters being purchased. The number of shelters in the possession of the Council at the end of the year was 53, representing an approximate outlay of £500, half of which is recoverable from the Local Government Board. A number of shelters were loaned during the year to the Bourn Tuberculosis Colony.

(D) *Centre for the Examination of Contacts.* This valuable part of the work, which aims at the detection of tuberculosis in its earliest stages among those in intimate association with infected persons, was further developed throughout the year, 194 being examined at the Dispensary

by the Tuberculosis Officer, in addition to the large number of visits paid by him to school children in their homes.

(E) *Centre for After Care*.—On discharge from sanatoria, patients are invited to visit the dispensary, when the Tuberculosis Officer advises as to suitable occupation, and home visitation is recommenced. Open-air shelters are lent as far as possible.

In this connection the work of the Voluntary Tuberculosis Care Committee may be referred to. This body consists of Members of the Insurance Committee, the County Nursing Association, and the Charity Organisation Society, the Tuberculosis Officer being a member *ex-officio*. Its objects were detailed in last year's report. The principal aim is to assist in obtaining suitable occupation for persons discharged from sanatoria, but other valuable assistance given during the year will be gathered from the following tabular statement :—

Summary of Cases dealt with in 1915.

Total number of cases	...	...	...	67
Suitable employment found	...	...	...	33
Sanatorium treatment arranged	...	...	...	5
Hospital	„	„	...	1
Open-air treatment in country arranged	...	...	...	5
Referred to Preventive Aid for Convalescence...	...	...	...	10
Referred to Central Aid, and Sanatorium arranged	...	...	...	2
Surgical dressings provided	...	...	...	1
Outfit provided...	...	...	...	4
Extra nourishment granted	...	...	...	5
Pension collected	...	...	...	1

(F) *Centre of Education and Information*.—This purpose is constantly being served in the ordinary course of the work, and calls for no special comment.

Insurance Committee. The forms of assistance given to the insured under the heading of Sanatorium Benefit include (a) Domiciliary treatment, (b) Dispensary, and (c) Sanatorium. The County Council's Tuberculosis Officer advises the Committee as to which form is most suitable for individual applicants. The following tables show the number of fresh applicants during the year, and the form of benefit granted :—

*Fresh applications for Sanatorium Benefit during
the year 1915.*

A. Insured persons :

				Recommended Treatment.		Total.
				Pulmonary.	Other Organs.	
Male	...	...	Applied 58	54	4	58
Female	...	...	29	26	3	29
			—	—	—	—
			87	80	7	87
			—	—	—	—

B. Dependents of Insured Persons.

Males	...	...	4	4	—	4
Females	...	...	3	3	—	3
			—	—	—	—
			7	7	—	7
			—	—	—	—

C. Total (A+B)			94	87	7	94
			—	—	—	—

The number of cases receiving various forms of treatment during the year are as follows :—

<i>Nature of Treatment.</i>			
	Male.	Female.	Total.
Sanatorium :			
Insured Persons ...	11	10	21
Dependents	4	3	7
Domiciliary Treatment ...	44	13	57
Dispensary	16	18	34
Shelters used by... ..	50	10	60

The number of applicants was 87, as compared with 109 in the previous year, the diminution being due no doubt to the absence of a large number of men on military service.

Domiciliary Treatment.—Treatment by a private practitioner is granted to cases unsuitable for sanatorium, or on their return from sanatorium. It includes medicines and appliances and food allowance where advisable. The houses are visited by the County Health Visitors, and open-air shelters are lent in suitable cases. The arrangements are supervised by the Tuberculosis Officer.

In last year's report reference was made to the prejudicial effect exercised on the health of tubercular persons by the rules of certain Friendly Societies, which prohibit any work being undertaken by sick members while in receipt of financial support from their Society. The Acting Tuberculosis Officer has since addressed meetings of representative bodies of Friendly Societies, strongly urging the abolition of this prohibition. The practical outcome of this action has been that the matter has been discussed by Friendly Societies throughout the country, and has been taken up by the

Federation of Friendly Societies' Councils, who have passed a resolution that persons suffering from tuberculosis should be allowed to do remunerative work under medical supervision and at the same time receive sick pay. This relates to the private side of the work of the Societies, but it is not legally permissible on the State side.

It is proposed to get over this difficulty by an experiment limited to Cambridgeshire by the formation of an After Care Association which will enable Approved Societies (not only Friendly Societies) to pay to the Association subscriptions which the Association will pay out to members at work. It will be seen that the private side can be dealt with all over the country where the Societies are so disposed, while action on the State side will for the present be limited to Cambridgeshire. If the foregoing scheme is successful a very valuable step will have been taken towards removing a serious obstacle to the maintenance of the physical benefit derived by sanatorium treatment, which at present results from lack of adequate food and suitable occupation on leaving the sanatorium.

Sanatorium.—The number of admissions was smaller than in the preceding twelve months reported upon. If the Council's scheme for sanatorium provision for both insured and uninsured persons is finally agreed upon, the Insurance Committee will not be limited in accommodation for insured persons to the equivalent of their available funds. As already pointed out, the admission of cases will be governed by their urgency and not by the question of insurance or non-insurance.

Dispensary.—The dispensary organisation is available for insured as well as uninsured persons, the Insurance

Committee having up to the present contributed a fixed proportion of the expense incurred by the County Council. The new proposal is that this payment be merged in the lump sum to be handed over to the Council for all purposes of their tuberculosis scheme.

Local Sanitary Authorities. The duties undertaken by the Cambridge Town Council and the Rural District Councils were detailed in last year's report. Home visitation is carried out on receipt of notifications, especially with a view to remedying sanitary defects, and printed instructions for prevention of infection are furnished. Receptacles for sputum, paper handkerchiefs and disinfectant solutions are supplied, and disinfection is carried out. Certain Councils also loan open shelters, but the number in use is small. In Cambridge Borough, provision is made for bacteriological examination of sputum.

An experiment was recently commenced by the Cambridge Borough Education Committee which should prove of great value. A cottage adjacent to the Isolation Hospital has been adapted for use as an open-air school, to which about 20 children have been admitted who are in the pre-tubercular stage, or are likely to contract tuberculosis if exposed to infection. The children spend the day at the school and receive their meals there, making a weekly payment. Instruction is partly on Elementary School lines and partly handiwork, and is carried out in the open air.

Many of the children have made very satisfactory progress in the eight weeks during which the school has been open, and the experiment so far seems fully justified. No doubt something on similar lines would be very valuable in the rural education area, but the scattered nature of the

district creates a difficulty. Whether this is insuperable remains to be seen.

Cambs. Tuberculosis Colony. Reference was made in last year's report to this private institution, which was inaugurated by the Acting Tuberculosis Officer. It had its origin in an aggregation of open-air shelters in the grounds of a private house in country surroundings at Bourn within the County. The shelters were lent by the County Council, and the Local Government Board ruled that this must be regarded technically as an encampment and not as a substitute for a Sanatorium. One difference is that all patients occupy open-air shelters instead of permanent or semi-permanent buildings, but for all practical purposes the Colony is an approved institution for the reception of 12 male cases of tuberculosis of specified types, both medical and surgical.

The capital was subscribed privately, and it is anticipated that the expenditure will be met by the payments made by and for patients. The admissions up to the present include cases sent by Insurance Committees and by the Military Authorities as well as private cases. The Acting Tuberculosis Officer acts as Hon. Medical Officer, and is in frequent attendance, while the Institution is also visited frequently by a local medical practitioner.

MENTAL DEFICIENCY ACT, 1913.

This Act came into operation on April 1st, 1914. It is administered by a Statutory Committee of the County Council on which are co-opted Poor Law Guardians and other persons having special knowledge and experience with respect to the care, control and treatment of defectives. The administrative machinery was detailed in my report for 1914,

as also the circumstances rendering defectives liable to be dealt with.

The following tabular statement shows the number of cases brought to the notice of the Statutory Committee during 1914 and 1915.

<i>Source of Information.</i>	1914.	1915.	<i>Total.</i>
County Education Committee	6	23	29
Borough „ „	2	7	9
County Police	—	1	1
Borough Police	—	3	3
Board of Control (Poor Law Cases)	—	2	2
Voluntary Association ...	1	10	11
School Medical Officer's records	—	2	2
Private Sources	—	13	13
Borough Relieving Officer ...	—	1	1
	—	—	—
	9	62	71

The grounds on which the cases considered were brought to the notice of the Committee were as follows :—

	1914.	1915.	<i>Total.</i>
“ Ineducable ”	8	31	39
Neglected	1	11	12
Cruelly treated	—	1	1
Charged with offences ...	—	4	4
In receipt of Poor Relief ...	—	2	2
For exercise of permissive powers	—	3	3
Private information	—	9	9
	—	—	—
	9	61	70

The County Authority may make provision for the welfare of defectives brought to their notice as above by placing them (a) under suitable supervision in their homes, (b) under suitable guardianship, or (c) in special institutions.

The scope of the work done and the action taken is shown in tabular form as follows :—

<i>Action taken.</i>	1914.	1915.	<i>Total.</i>
To Royal Eastern Counties' Institution	8	11	19*
To other Certified Institutions	—	2	2
To Institutions under permissive powers	—	2	2
Placed under Guardianship	—	2	2
Placed under supervision of Voluntary Association ...	1	20	21†
Referred to Voluntary Association as non-statutory	—	5	5
Not mentally defective ...	—	7	7
Referred to Borough Education Committee	—	1	1
Referred to Relieving Officer	—	3	3
No action	—	7	7
Evaded Order for Institution	—	1	1‡
	—	—	—
	9	61	70
	—	—	—

* One since died, and one discharged for supervision.

† Add one placed under supervision before admission to Institution.

‡ Placed in institution in 1916.

At the end of 1915 the cases remaining under the care of the Statutory Committee were under control as follows :—

In Royal Eastern Counties Institution	...	17
In other Institutions	... ..	3
Under Guardianship	... ..	2
Under supervision by Voluntary Association		22
		—
		44
		—

The following figures show the number of cases dealt with up to December, 1915, grouped according to grade of defect :—

		Total dealt with.		Under care on Dec. 31, 1915.	
		Under 16. 16 & over.		Under 16. 16 & over.	
Idiots	... .. 4	—		4	—
Imbeciles...	31	5		30	5
Feeble-minded	... 1	4		1	3
Moral Imbeciles...	1	1		1	—
	—	—		—	—
	37	10		36	8
	—	—		—	—

Excluding cases in which the permissive powers of the Council were exercised, of defectives actually dealt with under the Act up to the end of the year, 49 per cent. were sent to Institutions, 5 per cent. were placed under Guardianship, and 49 per cent. were put under supervision. It should be understood that the object of the Act is not to send all defectives to Institutions, but only those for whom supervision or guardianship afford inadequate protection and control. Broadly speaking, the policy of the Council has been not to saddle the public with institutional charges for low grade cases unless their home circumstances render it imperatively necessary, but only to send to Institutions those defectives who are capable of benefitting by handicraft taught, and feeble-minded female defectives who would be

inadequately protected from obvious dangers if left in their homes.

As the working of the Act only commenced in 1914, less assistance than was anticipated has been received in the shape of Treasury grants. The services rendered by the Cambridge-shire Voluntary Association for the Care of the Mentally Defective in supervising defectives in their homes have, therefore, assumed greater importance than was anticipated at the outset, and material assistance is being given by the Association in this connection.

The further duties undertaken by the Association were detailed in last year's report, and in return for these the Council made a grant of £50 for the financial year. As showing the necessity for that close relationship between the two bodies which exists, it may be mentioned that 79 cases were considered by the Association during 1915, such defectives as appeared to come within the scope of the Mental Deficiency Act being referred to the County Council. During the year the Council's Enquiry Officer, Mr. Leybourne, joined the R.A.M.C., and the duties of lay investigation were entrusted to the Voluntary Association, who appointed a temporary officer, Miss Cudworth, to perform duties for both bodies.

Owing to the War the anticipated provision of institutions for defectives has not materialised, and the Board of Control have therefore sanctioned the temporary use of approved Workhouses to an extent not originally intended. Restrictions as to structure and other conditions are much relaxed, but such accommodation is limited to certain types of defective. The Vice-Chairman of the Statutory Committee, the Hon. Mrs. Darwin, has taken a special interest in this matter, which has been brought to the notice of the local

Poor Law Authorities in the County. Conferences have been held with Boards of Guardians, and the matter is now engaging their serious attention.

CO-OPERATION WITH MILITARY AUTHORITIES.

As almost all the troops in the County have been billeted in Cambridge, the lion's share of the work has fallen to the Borough Public Health Department, and it is gratifying to read Dr. Laird's acknowledgment of the zeal of his staff, and of the pleasant relations existing between the civil and military authorities. A very large amount of work has been done, including the isolation of cases of infectious disease in the Isolation Hospital, the disinfection of blankets, uniforms, etc., the sterilisation of surgical dressings, inspection of billets, enquiries into food supplies and inspection of premises and materials, and the inspection of stables and removal of manure. The Medical Officers in charge of troops have been kept well informed of the incidence of infectious disease in the locality, and other services have been rendered in connection with infection among the troops.

In the Isolation Hospital for the Newmarket Rural District, cases of infectious disease among the troops have been isolated, while in the Chesterton Rural District "the preparation of very large quantities of food for army contracts has continued throughout the year, and a great deal of time has necessarily been devoted to the important work of supervising the carrying out of these contracts."

The assistance given by the County Public Health Department was mainly in the direction of supplying informa-

tion in connection with the proposed billeting of troops in rural parishes, advice as to the unsuitability of houses for billets, and supplying information to the Recruiting Officer as to the mental and physical condition of various recruits. In this connection the examination of recruits by the Tuberculosis Officer may be specially mentioned, while soldiers suffering from tuberculosis have been under his care at the Bourn Tuberculosis Colony.

VITAL STATISTICS AND INCIDENCE OF INFECTIOUS DISEASES.

For statistical purposes Cambridge Borough is comparable with the Registrar General's "96 Great Towns," while the rest of the County is collectively comparable with "England and Wales, less the 244 towns," *i.e.*, Rural England and Wales.

The absence of large numbers of men with the fighting forces and movements of the civil population on a large scale have necessitated a further departure in the method of estimation of the population in the respective sanitary districts. The Registrar General has therefore furnished estimates of the civil population for 1915, based on the National Register, and these estimates are the foundation of the statistical statements by which the health of the public is expressed. The following are the estimates of the population for 1915 :—

County of Cambridge	...	...	123,297
Cambridge Borough...	...	...	54,029
Aggregate of Rural Districts	...	...	69,268

Individual Rural Districts.

Chesterton	...	...	...	...	22,485
Caxton and Arrington	...	...	...	...	7,155
Linton	...	...	...	...	9,664
Melbourn	...	...	...	...	8,287
Newmarket	...	...	...	...	19,217
Swavesey	...	...	...	...	2,460

These figures indicate a temporary decrease in the population on the estimate for the previous year, amounting to 7,050 for the whole county—3,130 for Cambridge Borough, and 3,920 for the rural areas. This is equivalent to a decrease of 5.4 per cent. of the population in the whole county, and is slightly higher in the urban than the rural areas, namely, an estimated loss of 547 persons per 10,000 in the town, compared with 535 persons per 10,000 in the rural area.

The following are the principal items of the vital statistics for the year :—

Area, 314,520 acres (exclusive of area covered by water). Population : Census 1901, 120,264 ; Census 1911, 128,322 ; (estimated) middle of 1915, 123,297. Proportion of population (1915) in urban area 43.8 per cent. ; in rural 56.2.

Births registered (nett), 2,312 ; birth-rate 17.7 per 1,000 of population.

Deaths registered (nett), 2,067 ; nett death-rate 16.8 per 1,000 of the population ; standardised for age and sex distribution, 14.2 per 1,000.

Infant mortality, 212 deaths under one year, or 96 per 1,000 *births* registered.

Notified cases of infectious disease, excluding tuberculosis, 486, or 3.9 per 1,000 of the population.

Notified cases of tuberculosis (excluding duplicates), pulmonary 280, or 2.27 per 1,000 ; other forms 39, or 0.32 per 1,000.

Epidemic (zymotic) death-rate, 134 deaths from principal infectious diseases (excluding tuberculosis), or 1.09 per 1,000 of the population.

Tuberculosis death-rate, 136 deaths, or 1.10 per 1,000 (113 pulmonary, or 0.92 per 1,000, 26 other organs, or 0.21 per 1,000).

Cancer death-rate, 205 deaths, or 1.66 per 1,000 living.

Respiratory death-rate, 382 deaths, or 3.09 per 1,000 living.

General Statement.—The birth-rate remained stationary in Cambridge, but continued to decline in the rural area, in which the births were 78 fewer than in the preceding year. The birth-rate was the lowest yet recorded for the County, both urban and rural rates being below the average for corresponding areas in England and Wales. The death-rate from all causes was much heavier than in 1914, the increase being largely due to a widespread outbreak of measles, and to diseases of the respiratory organs. The rate of mortality among infants rose from 68 deaths per 1,000 births in 1914 to 96 in 1915, the increased wastage of infant life being mainly

attributable to measles, respiratory diseases and wasting diseases. Mortality from diarrhoeal diseases was appreciably lower than in 1914.

Following on the great reduction of prevalence of scarlet fever recorded in 1914, the number of cases of this disease and of diphtheria was much reduced in 1915. The serious feature of the year was the widespread prevalence of measles, which caused a heavy mortality. There was no case of smallpox notified, and enteric fever was almost non-existent.

The recorded mortality from cancer shows a marked increase, but the mortality from tuberculosis was appreciably lower than that recorded in the previous year.

Birth-rate.—The birth-rate for England and Wales in 1915 was 21.8 per 1,000 living, being 2.0 below the 1914 rate, and the lowest rate on record. In this County the birth-rate during 1915 was 17.7 per 1,000 living, a decrease of 0.6 per 1,000 on the rate for 1914, and of 2.1 on the average annual rate (19.8) during the preceding five years. The rates for the respective districts were :—Cambridge Borough, 17.4 ; Caxton and Arrington Rural, 20.0 ; Chesterton Rural, 18.0 ; Linton Rural, 19.0 ; Melbourn Rural, 16.4 ; Newmarket Rural, 20.1 ; and Swavesey Rural, 21.1. The highest rate is recorded in Swavesey Rural District.

The following statement of births (nett) per annum shows the decrease in the number of births during the war compared with the preceding year :—

	1914	1915
Cambridge Borough ...	996	997
Rural Districts ...	1393	1315
Whole County ...	2389	2312

The birth-rate in Cambridge Borough was identical with that for 1914, viz., 17.4, against 22.8 for the 96 Great Towns, and in the rural portion of the County was 18.9, against 20.7 for rural England and Wales. As in 1914, both urban and rural rates, therefore, and especially the former, are considerably below the average rates for both types of area in England and Wales. This difference is no doubt to some extent attributable to the absence of mining and manufacturing industries.

"In view of the interest created by the question of the effect of the War upon the sex of children born," Dr. Laird gives figures showing the proportion of male to female births in Cambridge Borough for each year from 1903 to 1915. Prior to the extension of the Borough boundary there was a large excess of male births, but following the inclusion of Chesterton, female births preponderated. The number of male births per 100 female births in 1913, 1914, and 1915, was 99.1, 94.9, and 97.0 respectively. The rise in the proportion of males born in 1915 is noteworthy, but as greater fluctuations have occurred from year to year since 1903 too much importance should not be attached to this figure. In the rural area, of 1,034 notified births, 534 were male and 500 female, or a proportion of 106.8 males to 100 females. No figures are available for comparison with previous years.

There were 123 illegitimate births in this County (51 urban, 72 rural), a rate of 5.3 per 100 births (5.1 urban, 5.5 rural), against 6.3 in 1914. Expressed as births per 1,000 of the population, the illegitimate rate for the County was 1.0, against 1.15 in 1914. This rate for 1915 is practically identical with that for England and Wales (1.01) for 1914, the period for which the latest figures are obtainable. The rate for Cambridge (0.94) is distinctly below the average for

great towns in 1914 (1.08), while that for the rural area (1.04) is slightly in excess of that for rural England and Wales in 1914.

A comparison of the actual number of illegitimate births in 1914 and 1915 clearly shows that the sensational "war baby" statements made in 1915 are not applicable to this County.

		1914	1915
Cambridge	... ..	72	51
Rural Districts	... ..	78	72
Whole County	... ..	150	123

In the various districts the percentage of illegitimate to total births was :—Cambridge Borough, 5.1 ; Caxton and Arrington, 4.5 ; Chesterton Rural, 5.0 ; Linton Rural, 1.6 ; Melbourn Rural, 10.3 ; Newmarket Rural, 5.4 ; and Swavesey Rural, 13.5 per cent.

Death-rate from all Causes.—The Registrar-General states that under present circumstances only civilian deaths can be calculated on local areas. All deaths of combatants are to be excluded in the calculation of death-rates. After deducting deaths of non-residents within the County, and adding the deaths of residents which occurred elsewhere, a nett death-rate of 16.8 per 1,000 is arrived at, being an increase of 3.9 per 1,000 on the rate for 1914, and of 4.0 per 1,000 on the average of the preceding five years. The corresponding rates for the urban and rural portions of the County are 16.4 and 17.0 respectively. After standardising for differences of age and sex distribution, these rates are reduced to 14.2 for the County, 15.3 for the urban area, and 13.4 for the rural area. The standardised rate for England and Wales was 14.8, the corresponding rate for the 96 Great Towns being 15.9, and for Rural England

and Wales 13.6. The Cambridgeshire rates, and more especially the urban, are somewhat below those for the country generally. The standardised rate for the whole County showed an increase of 3.3 per 1,000 on that for 1914. The standardised rates for the respective districts were .—Cambridge Borough, 15.3 ; Caxton and Arrington, 14.4 ; Chesterton Rural, 12.5 ; Linton Rural, 13.6 ; Melbourn Rural, 16.4 ; Newmarket Rural, 13.1 ; and Swavesey Rural, 12.2 per 1,000 living.

As compared with 1914 the heavy mortality was due principally to a large increase of deaths from measles, respiratory diseases and “other defined diseases,” and, in a less degree, from influenza, cancer and organic heart disease. On the other hand, there was some reduction on 1914 in deaths from diphtheria, pulmonary tuberculosis, diarrhoeal disease, and from non-septic diseases and accidents of pregnancy.

Rate of Infantile Mortality.—The number of deaths under one year (212) constituted a rate of 96 per 1,000 *births* registered, an increase of 28 per 1,000 births compared with the 1914 rate, and of 21 compared with the average (75) for the preceding five years. The rate for England and Wales was 110 per 1,000 births, an increase of 5 on the 1914 rate.

The corresponding rate for Cambridge Borough was 88, against 117 for the 96 Great Towns ; and for rural Cambs. was 94, against 98 for Rural England and Wales. The rates for the various districts were :—Cambridge Borough, 88 ; Caxton and Arrington, 65 ; Chesterton Rural, 89 ; Linton Rural, 108 ; Melbourn Rural, 118 ; Newmarket Rural, 103 ; and Swavesey Rural, 36 per 1,000 births.

There were 50 more deaths among infants in 1915 than in 1914, the excess being attributed chiefly to measles, bronchitis

and pneumonia, wasting diseases and convulsions. These increases were distributed pretty evenly through the urban and rural areas except bronchitis and pneumonia, which caused excessive mortality in the rural area. A serious outbreak of catarrh in the rural districts, which caused closure of many schools, may have contributed to this result. An appreciable decrease in diarrhoeal diseases is recorded in both urban and rural areas.

Seventeen of 123 *illegitimate* infants died (9 urban, 8 rural), the deaths being in the proportion of 138 per 1,000 illegitimate births (urban rate 176, rural 111 per 1,000). This relative mortality was double that (86 per 1,000) obtaining among legitimate infants in the Borough, and in the rural area exceeded the deaths among legitimate infants (93 per 1,000 births) by about 30 per cent.

Epidemic Diseases.—Excluding tuberculosis, there was an appreciable reduction in the number of cases of infectious disease notified, viz., 486 notifications in 1915 as compared with 733 in 1914. This diminution was principally due to the decline in the prevalence of both scarlet fever and diphtheria. The notifications of infectious disease were equivalent to a rate of 3.9 per 1,000 living, against 5.6 in 1914—3.3 in Cambridge Borough (6.3 in 1914), and 4.4 in the rural area (5.1 in 1914). As usual, scarlet fever and diphtheria combined constituted the bulk of the cases, viz., 83 per cent. of the total. The low notification rate for enteric fever was further reduced, and the rate of mortality due to diarrhoeal diseases also showed a marked fall.

The serious feature of the year was the wide-spread prevalence of measles, which was not notifiable in 1915, and which spread through practically the whole of the County.

The epidemic (zymotic) death-rate relates to deaths among the principal epidemic diseases, including diarrhoea and enteritis among children under 2 years. The 134 deaths during 1915 yield a mortality rate of 1.08 per 1,000 living, double that for the preceding year (0.50). The urban and rural rates were 1.59 (0.68 in 1914) and 0.69 (0.32 in 1914) respectively. In both the Borough and the rural area epidemic mortality was principally attributable to measles, whooping cough also contributing materially in the rural area.

Smallpox.—No case of smallpox was notified in the County. There is again ample evidence of neglect by parents to protect their children by vaccination. In the County Education area, *i.e.*, in the rural districts, the proportion of children recently commencing school life who had no vaccination marks was 43.5 per cent. in 1915, against 6.7 per cent. in 1909. There were 412 conscientious objections in Cambridge.

Scarlet Fever.—There was again an appreciable reduction of prevalence of this disease, 273 cases being notified, against 414 in 1914. The notification rate was 2.21 per 1,000 of the population (3.14 in 1914), again appreciably lower than the average for the administrative counties, *viz.*, 3.46 per 1,000. The chief reduction occurred in Cambridge Borough, where the prevalence was reduced by half, compared with 1914. The 87 notifications yielded the rate of 1.41 per 1,000 living, compared with 3.69 for the Great Towns of England. The rural rate, 2.51 per 1,000, based on 187 cases, was distinctly lower than that for the previous year (3.20), and was below that for Rural England, *viz.*, 3.14 notifications per 1,000 living.

Only three deaths occurred, approximately 2 per 100,000 living, the Borough rate being 4 per 100,000, against 7 for the

Great Towns, while the rural rate was less than 1 per 100,000, against 5 for Rural England and Wales. It is obvious that a mild type prevailed. The Rural District principally affected was that of Chesterton.

Diphtheria.—The notified cases numbered 130 (201 in 1914), yielding a sickness rate of 1.05 cases per 1,000 living, distinctly below the rate (1.39) for administrative Counties. Only half as many notifications were received in Cambridge Borough as in 1914 (67, against 139), yielding a sickness rate of 1.28, against 2.43 in 1914, and compared with 1.49 for the English Great Towns. In the rural area 63 cases were notified, as against 62 in 1914, yielding a rate of 0.87 per 1,000 living, considerably lower than that for Rural England, viz., 1.25.

In the same period the mortality rate from diphtheria for the County (19 deaths) was 1.05 per 1,000 living, identical with that for England and Wales, and a reduction of 1.10 on the previous year. The rate for Cambridge Borough (16 deaths—equivalent to 0.29 per 1,000) was below that for 1914 (0.38), but still much above that for the Great Towns (0.16).

Dr. Laird devotes considerable space to the measures taken for combating this disease, which has of recent years been of a virulent type in the Borough.

Deaths in the rural area fell from 11 in 1914 to 3 in 1915, a mortality rate of 0.04 per 1,000 living, against 0.15 in 1914, a very satisfactory comparison. This rate was again practically identical with that for Rural England and Wales, viz., 0.14 per 1,000 living. The heaviest case incidence was in the Chesterton and Linton Rural Districts.

Enteric Fever.—The incidence of this disease was very low, only 6 cases having been notified, as against 17 in 1914. This yields a notification rate of 0.04 per 1,000 living, only about a quarter of the average prevalence for administrative counties, viz., 0.17 per 1,000. There were 2 cases in the urban and 4 in the rural area, the former yielding a rate of 0.04 per 1,000, against 0.20 for the English Great Towns, and the latter a rate of 0.06, against 0.14 for Rural England. There were no deaths.

Erysipelas.—Of 60 notified cases, 16 occurred in Cambridge Borough and 44 in the rest of the County. In the urban area the rate was much below that for the Great Towns, and in the rural area much above that for Rural England; while the sickness rate for the County (0.48) was below that for the administrative counties (0.55 per 1,000). There were no deaths.

Puerperal Fever.—Six notifications were received, the sickness rate for the County being 0.05 per 1,000 living, identical with that for administrative counties. Four notifications were from Cambridge Borough and 2 from the rural districts. The deaths were 3 in number (2 Urban, 1 Rural).

Diarrhœal Diseases.—There was a marked reduction in mortality from these diseases, namely, 10 deaths (7 Urban, 3 Rural), against 24 in 1914. All of these occurred under two years of age, the period of life upon which the mortality rate for diarrhœal diseases is based. The death-rates per 1,000 *births* from these causes during 1915 were 4.32 for the County (England and Wales 18.18), 7.02 for Cambridge Borough (24.48 for the Great Towns), and 2.27 for the rural area (9.79 for Rural England and Wales). The rainfall in Cambs.

and Hunts. was 1.74 inches above the normal in July and August, and this no doubt contributed to a low diarrhœa rate.

Measles.—There were as many as 88 deaths from this cause during the year, compared with 2 in 1914. In Cambridge Borough there were 59 deaths, a mortality rate of 1.09 per 1,000 living, or double that for the Great Towns (0.50). In the rural area there were 29 deaths, a mortality rate of 0.42 per 1,000 living, appreciably in excess of that for Rural England and Wales (0.32).

Dr. Laird attributes much of the excessive prevalence in Cambridge Borough to the restricted accommodation in the homes of the civil population arising from the billeting of troops. In the rural area a number of instances were met with of the introduction of infection by soldiers on furlough.

All the deaths occurred under 25 years of age, 82 per cent. under 5 years; the heaviest mortality being in the second year of life, in which 34 per cent. of the deaths occurred. It is much to be hoped that this unfortunate experience will impress upon the public mind the dangerous character of this disease in the absence of proper care, and the necessity for checking the indiscriminate mingling of infectious children with the rest of the population. Since January, 1916, measles has become compulsorily notifiable, and it is now incumbent on the Local Sanitary Authorities to make adequate arrangements for visitation and advice in the homes affected, but until these powers are fully exercised, and the public are fully educated as to the dangers run, no great headway will be made.

Whooping Cough — This disease, which was very prevalent in 1912 and 1913, still lingered in the County in 1914 and 1915,

causing 14 deaths in the latter year, of which two were in Cambridge Borough and 12 in the rural area. The comparative mortality rates per 1,000 living were :—Cambs., 0.05 (England and Wales 0.21) ; Cambridge Borough, 0.04 (Great Towns 0.23) ; and Rural Cambs., 0.17 (Rural England and Wales 0.19).

Acute Poliomyelitis (Infantile Paralysis).—Only one case was notified in Linton Rural District, and on proving fatal the death was registered as due to tuberculosis.

Cerebro-spinal Meningitis.—Two civilian cases were notified, both in the rural area, but bacteriological results were negative. One was the wife of a soldier, who had been home on furlough four weeks before. Two military cases were removed from rural parishes to the Military Hospital.

Pulmonary Tuberculosis.—The total number of notifications received (Form A) was 272, or 2.20 per 1,000 of the population, against 1.74 in 1914. After excluding duplicate notifications (see Table V. appended to this report), 269 notifications of fresh cases remain, against 197 in 1914, yielding a notification rate of 2.18 per 1,000 living. Fresh cases notified within Cambridge Borough numbered 149, and in the rural area 120, yielding notification rates of 2.75 and 1.73 per 1,000 respectively. The proportion of fresh urban and rural notifications to total was 55 and 45 per cent. respectively. This considerable increase since the establishment of the Dispensary system is an encouraging feature, as tending to show that more cases now come to light as the result of administrative activity.

The number of deaths registered from this cause was 113 in the whole county (133 in 1914), 55 in Cambridge Borough

55 in 1914), and 58 in the rural area (72 in 1914), yielding mortality rates for these areas of 0.92, 1.01, and 0.84 per 1,000 persons living respectively. All these rates are lower than those for 1914. Mortality was appreciably higher in the urban than in the rural area but was less than that for all urban areas (1.13), while the rural mortality exceeds that for all rural areas (0.74). The mortality rates for individual sanitary districts were:—Cambridge Borough 1.01, Caxton and Arrington 0.56, Chesterton Rural 0.93, Linton Rural 1.03, Melbourn Rural 0.60, Newmarket Rural 0.88, and Swavesey Rural 0.40 per 1,000 living.

Tuberculosis of other Organs.—Forty-five notifications were received from the whole County during 1915, which, after deducting one duplicate, yield a notification rate of 0.36 per 1,000 living. Twelve notifications were from Cambridge Borough (0.22 per 1,000), and 32 from the rural area (0.46 per 1,000). The rate of notification from the rural area was therefore much higher than from the urban, as in 1914. The total notifications were slightly in excess of those for 1914.

There were 23 deaths in all, 14 in Cambridge Borough and 9 in the rural area, yielding mortality rates of 0.19, 0.25 and 0.13 respectively.

The foregoing statistics relate to civilian cases only. Military notifications comprise 4 cases of pulmonary tuberculosis and 1 of non-pulmonary, together with 3 pulmonary cases notified from sanatoria.

Cancer.—The recorded deaths from cancer numbered 205 as compared with 176 in 1914, 83 occurring in Cambridge Borough and 122 in the rural area. The proportion of deaths per 1,000 living was 1.66 in the whole County, 1.54 in the urban

area, and 1.76 in the rural districts. The corresponding crude rate for England and Wales for 1914 is 1.07 per 1,000, for all urban areas 1.06, and for all rural areas 1.11. It will be seen that the Cambs. mortality figures are much higher than those for the country generally, in both urban and rural areas.

The recorded mortality from cancer shows a steady rise, as indicated by the following figures :—

	Deaths.	Rate per 1,000
Average for 10 years, 1904-1913	152	1.19
Average for 5 years, 1908-1912	157	1.23
1914	176	1.35
1915	205	1.66

The relative mortality in individual districts during 1914 was as follows :—Cambridge Borough 1.54, Caxton and Arrington Rural 2.36, Chesterton Rural 1.55, Linton Rural 1.96, Melbourn Rural 2.4, Newmarket Rural 1.35 and Swavesey Rural 1.62, all in rates per 1,000 living.

Respiratory Death Rate.—There were 382 deaths from non-tubercular diseases of the respiratory organs, against 220 in 1914, an increase of 162. The mortality rate for the whole county was 1.68 per 1,000 living. There were 175 deaths in Cambridge Borough (3.24 per 1,000 living), and 207 in the rural area (3.00 per 1,000 living).

Of the 382 deaths, 200 were registered as due to bronchitis, 143 to pneumonia, and 39 to other respiratory diseases. The heavy excess of deaths occurred among very young children and old people, especially the latter. Measles was probably responsible to a considerable extent for the excessive mortality among young children.

Ophthalmia Neonatorum.—The total number of notifications during 1915 was 8, of which 6 were from Cambridge Borough, and 2 from the rural area. There is no special comment in the reports, and all cases investigated under the Midwives Act, with one exception, proved to be slight.

FRANK ROBINSON,
County Medical Officer of Health.

County Hall,
Cambridge.
September, 1916.

TABLE I.

VITAL STATISTICS OF WHOLE COUNTY DURING 1915 AND PREVIOUS FIVE YEARS.

YEAR.	Population estimated to middle of each year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFER-ABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT.			
		Uncorrected Number.	Nett.		Number.	Rate.	Of Non-residents registered in the District.	Of Residents not registered in the District.	Under 1 Year of Age.		At all Ages.	
			Number.	Rate.					Number.	Rate per 1000 Nett Births.	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1910	127677	2661	2667	20.8	1558	12.2	141	128	173	67	1545	12.1
1911	128537	2568	2579	20.0	1692	13.1	171	163	252	97	1684	13.1
1912	129403	2624	2633	20.3	1702	13.1	152	142	175	66	1692	13.0
1913	130253	2500	2511	19.3	1673	12.8	181	167	188	75	1659	12.7
1914	130347	2199	2389	18.3	1673	12.9	158	169	162	68	1684	12.9
Averages for years 1910-1914.	129243	2510	2556	19.7	1660	12.8	161	154	190	75	1553	12.8
1915	123297	2286	2312	17.7	2057	16.7	211	221	212	96	2066	16.8

Area of District in acres (exclusive of area covered by water)	...	314,520	} At Census of 1911.
Total population at all ages	...	128,322	
Number of inhabited houses	...	30,950	
Average number of persons per house	...	4.15	

TABLE II.

Cases of Infectious Disease notified during the Year 1915 in the Administrative County of Cambridge and its Districts.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE COUNTY.								TOTAL CASES NOTIFIED IN EACH DISTRICT.							NO. OF CASES REMOVED TO HOSPITAL FROM EACH DISTRICT.						
	At all Ages.	At Ages—Years.							Borough of Cambridge.	Chesterton Rural District.	Caxton and Arrington Rural District.	Linton Rural District.	Melbourn Rural District.	Newmarket Rural District.	Swavesey Rural District.	Borough of Cambridge.	Chesterton Rural District.	Caxton and Arrington Rural District.	Linton Rural District.	Melbourn Rural District.	Newmarket Rural District.	Swavesey Rural District.
		Under 1	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.														
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera (c) Plague (p)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria ... including Membranous croup	130	—	20	84	16	10	—	—	67	22	2	20	8	11	—	57	10	2	—	—	5	—
Erysipelas	60	1	—	1	1	20	23	14	16	15	4	13	2	9	1	—	—	—	—	—	—	—
Scarlet fever	273	2	50	166	32	19	3	1	86	85	34	19	17	28	4	59	47	10	—	13	18	3
Typhus fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric fever	6	—	—	2	1	3	—	—	2	2	—	—	—	2	—	—	1	—	—	—	1	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Continued fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal fever	6	—	—	—	2	4	—	—	4	—	1	—	—	1	—	—	—	—	—	—	—	—
Cerebro-Spinal Meningitis	2	—	—	1	1	—	—	—	—	—	—	2	—	—	—	—	—	—	1	—	—	—
Poliomyelitis	1	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Pulmonary Tuberculosis	280	1	4	42	75	105	47	6	137	43	15	31	16	36	2	—	—	—	—	—	—	—
Other forms of ..	39	—	6	17	6	9	1	—	12	6	5	8	1	7	—	—	—	—	—	—	—	—
Ophthalmia Neonatorum	8	8	—	—	—	—	—	—	6	—	1	—	—	1	—	—	—	—	—	—	—	—
Totals	805	12	80	313	135	170	74	21	330	173	62	94	44	95	7	116	58	12	1	13	24	3

The above admissions to Hospital include 1 of enteric fever and 1 of cerebro-spinal meningitis to Addenbrooke's Hospital. They also include cases of diphtheria and scarlet fever admitted from the rural districts to the Cambridge Borough Isolation Hospital. In addition to the figures in the Table, 47 diphtheria carriers belonging to the Borough, and 30 cases of scarlet fever, 19 of diphtheria, 6 of mumps, 175 of measles, and 10 of German measles occurring among troops in the town were admitted to the Borough Isolation Hospital.

Isolation Hospitals.—Cambridge Borough Infectious Diseases Hospital; Small-pox Hospital, situated in the Parish of Cherryhinton, and Isolation Hospital at Oakington, both in the Chesterton Rural District; Isolation Hospital of the Royston, Ashwell and Melbourn Joint Board, at Garden Walk, in the Parish of Royston; Newmarket Fever Hospital (a Joint Isolation Hospital [permanent] situated in the Newmarket Urban District); Isolation Hospital for Small-pox for the Parish of Bourn, in the Caxton and Arrington Rural District (not yet used). No sanatorium has yet been provided; Insurance cases are sent to private institutions elsewhere.

TABLE III.

Causes of, and Ages at, Death during the Year 1915 in the Administrative County and its Districts.

CAUSES OF DEATH.	NETT DEATHS AT THE SUBJOINED AGES OF "RESIDENTS," WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.									NETT DEATHS IN OR BELONGING TO DISTRICTS (AT ALL AGES).							TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE COUNTY.
	All Ages.	Under 1 year.	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.	65 and upwards.	Borough of Cambridge.	Chesterton Rural.	Caxton and Arrington Rural.	Linton Rural.	Meibourn Rural.	Newmarket Rural.	Swavesey Rural.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
All Causes { Certified ...	2045	204	77	54	85	61	185	407	973	885	356	133	166	166	295	43	330
Uncertified ...	21	8	1	—	1	—	—	4	7	3	2	—	3	3	10	—	—
Enteric Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Small-pox ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles ...	88	13	30	29	15	1	—	—	—	59	14	3	3	—	9	—	2
Scarlet Fever ...	3	—	—	—	2	—	1	—	—	2	1	—	—	—	—	—	2
Whooping Cough ...	14	8	2	4	—	—	—	—	—	2	1	—	—	3	8	—	—
Diphtheria and Croup ...	19	—	2	3	13	1	—	—	—	16	1	1	—	—	1	—	12
Influenza ...	57	2	1	—	—	2	5	13	34	25	12	10	4	2	3	1	4
Erysipelas ...	2	—	—	—	—	—	—	1	1	—	1	—	—	—	—	1	1
Phthisis (Pulmonary Tuberculosis) ...	113	1	1	2	7	21	56	20	5	55	21	4	10	5	17	1	18
Tuberculous Meningitis ...	10	2	2	—	4	1	1	—	—	7	—	1	—	—	2	—	—
Other Tuberculous Diseases	13	2	2	—	4	3	1	1	—	7	3	—	3	—	—	—	4
Cancer, malignant disease ...	205	—	—	—	—	—	14	94	97	83	35	17	19	21	26	4	27
Rheumatic Fever ...	9	—	—	—	8	—	—	1	—	8	—	—	—	—	1	—	1
Meningitis ...	8	3	—	2	2	—	—	1	—	5	—	—	—	—	3	—	1
Organic Heart Disease ...	209	—	—	—	2	4	15	67	121	74	40	21	13	32	26	3	54
Bronchitis ...	200	21	11	1	1	—	6	25	135	93	26	13	14	21	28	5	8
Pneumonia (all forms) ...	143	31	13	9	7	6	18	26	33	66	23	1	18	10	23	3	29
Other diseases of respiratory organs ...	39	—	1	—	—	—	7	6	25	16	9	1	7	1	4	1	5
Diarrhoea and Enteritis ...	10	8	2	—	—	—	—	—	—	7	1	—	—	—	2	—	5
Appendicitis and Typhlitis...	3	—	—	—	1	1	—	1	—	2	—	1	—	—	—	—	—
Cirrhosis of Liver ...	13	—	—	—	1	—	—	6	6	4	1	2	—	—	3	1	1
Alcoholism ...	6	—	—	—	—	—	1	4	1	4	1	—	—	—	1	—	6
Nephritis & Bright's Disease	42	—	—	—	—	2	4	12	24	25	6	2	4	—	4	1	7
Puerperal Fever ...	3	—	—	—	—	—	3	—	—	2	—	—	—	—	1	—	1
Other accidents and Diseases of Pregnancy and Parturition	5	—	—	—	—	1	4	—	—	2	1	1	—	—	1	—	—
Congenital Debility and Malformation including Premature Birth	75	74	—	—	1	—	—	—	—	40	9	6	8	1	11	—	7
Violent Deaths, excluding Suicide ...	39	1	3	2	8	7	2	9	7	16	5	5	2	1	9	1	13
Suicide ...	12	—	—	—	—	1	3	7	1	8	—	1	—	1	2	—	1
Other Defined Diseases ...	714	45	8	2	9	10	43	113	484	258	145	43	64	68	118	19	121
Diseases ill-defined or unknown ...	13	1	—	—	1	—	1	4	6	3	2	1	—	3	2	2	—
	2067	212	78	54	86	61	185	411	980	889	358	134	169	169	305	43	—

TABLE IV.

Infantile mortality in the Administrative County of Cambridge during the year 1915. Nett Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSES OF DEATH.		Under 1 Week.	1—2 Weeks.	2—3 Weeks.	3—4 Weeks.	Total under 1 Month.	1—3 Months.	3—6 Months.	6—9 Months.	9—12 Months.	Total Deaths under 1 Year.
All Causes. { Certified Uncertified		54 5	10 —	8 1	11 —	83 6	36 —	23 1	32 —	30 1	204 8
1	{ Small-pox ...	—	—	—	—	—	—	—	—	—	—
2	{ Chicken-pox ...	—	—	—	—	—	—	—	—	—	—
3	{ Measles ...	—	—	—	—	—	—	3	3	7	13
4	{ Scarlet Fever ...	—	—	—	—	—	—	—	—	—	—
5	{ Whooping Cough ...	—	—	—	1	1	2	3	1	1	8
6	{ Diphtheria and Croup ...	—	—	—	—	—	—	—	—	—	—
7	{ Erysipelas ...	—	—	—	—	—	—	—	—	—	—
8	{ Tuberculosis Meningitis ...	—	—	—	—	—	1	1	—	—	2
9	{ Abdominal Tuberculosis ...	—	—	—	—	—	1	—	1	—	2
10	{ Other Tuberculous Diseases ...	—	—	—	—	—	—	—	1	—	1
11	{ Meningitis (not Tuberculous) ...	—	—	—	—	—	1	—	2	1	4
12	{ Convulsions ...	3	—	1	2	6	1	1	6	3	17
13	{ Laryngitis ...	—	—	—	—	—	—	—	—	—	—
14	{ Bronchitis ...	—	—	—	2	2	2	5	6	6	21
15	{ Pneumonia (all forms) ...	—	—	—	1	1	7	5	10	8	31
16	{ Diarrhoea ...	—	—	—	—	—	2	—	—	—	—
17	{ Enteritis ...	—	—	—	—	—	3	—	1	—	4
18	{ Gastritis ...	—	—	—	1	1	—	—	—	1	2
19	{ Syphilis ...	—	—	—	—	—	1	—	—	—	1
20	{ Rickets ...	—	—	—	—	—	—	—	—	—	—
21	{ Suffocation, overlying ...	1	—	—	—	1	—	—	—	—	1
22	{ Injury at Birth ...	1	—	—	—	1	—	—	—	—	1
23	{ Atelectasis ...	1	1	1	—	3	—	—	—	—	3
24	{ Congenital Malformations ...	6	1	—	—	7	—	—	—	—	7
25	{ Premature Birth ...	25	6	4	2	37	1	—	—	—	38
26	{ Atrophy, Debility and Marasmus ...	17	2	2	2	23	13	4	1	—	41
27	{ Other Causes ...	5	—	1	—	6	1	2	—	3	12
		59	10	9	11	89	36	24	32	31	212

TABLE V.
COUNTY OF CAMBRIDGE.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912.

Summary of notifications during the period from 2nd January, 1915, to the 2nd January, 1916.

Age Periods.	Number of Notifications on Form A.												Total Notifications (i.e. including cases previously notified by other doctors).	Number of Notifications on Form B.				Total Notifications (i.e. including cases previously notified by other doctors).	Number of Notifications on Form C.	
	Primary Notifications													Primary Notifications.					Poor Law Institutions	Sanatoria.
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards	Total.		under 5	5 to 10	10 to 15	Total.			
Pulmonary, Males	—	2	13	9	18	18	27	30	15	13	4	149	152	—	3	—	3	3	2	7
Pulmonary, Females	1	1	8	14	14	15	29	19	8	9	2	120	120	—	—	1	1	1	1	6
Non-Pulmonary, Males	1	—	7	6	2	2	4	1	—	—	—	23	24	—	1	—	1	1	—	1
Non-Pulmonary, Females	1	3	3	3	5	2	2	2	—	—	—	21	21	—	1	1	2	2	—	—

Notifications on form A relate to the general population.

„ „ „ B are made by School Medical Staff and relate to School Children.

„ „ „ C relate to admissions of persons known to be tuberculous to Sanatoria and Poor Law Institutions.

